

REMARKS

Claims 1-6 are pending in the present application, which is a continuation of U.S. Patent Application Serial No. 09/521,744, filed March 9, 2000, entitled "Method And Apparatus for Humidifying and Adjusting the Temperature of a Reactant Stream for a Solid Polymer Fuel Cell". The '744 application is, in turn, a continuation of U.S. Patent Application Serial No. 09/108,156, filed June 30, 1998, now U.S. Patent No. 6,106,964 issued August 22, 2000, also entitled "Method And Apparatus for Humidifying and Adjusting the Temperature of a Reactant Stream for a Solid Polymer Fuel Cell". The '156 application is, in turn, related to and claimed priority benefits from U.S. Provisional Patent Application Serial No. 60/051,356, filed June 30, 1997, also entitled "Method And Apparatus for Humidifying and Adjusting the Temperature of a Reactant Stream for a Solid Polymer Fuel Cell". Each of the '744, '156 and '356 applications was incorporated by reference in the present application in its entirety.

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Applicants have filed the present continuing application in order to pursue claims similar to those granted in the predecessor '156 application filed June 30, 1998 (now U.S. Patent No. 6,106,964 issued August 22, 2000), but the claims of the present

application define embodiments that are more limited than those defined in the claims of the predecessor '156 application (now the '964 patent). In this regard, independent claims 1 and 4 of the present continuing application are essentially identical to granted claim 1 of the '156 application, with the exception that new claims 1 and 4 define the reactant gas supply stream (in the case of claim 1) or the exhaust stream (in the case of claim 4) as being directed at a flow rate selected such that the residence to diffusion time ratio, R, for a water molecule in the supply stream chamber (claim 1) or exhaust stream chamber (claim 4) is greater than about 0.75.

Support for claim 1 of the present continuing application is present in the predecessor '156 application (now the '964 patent) at original claims 1, 8 and 9 and page 14, lines 3-17, where it is indicated that, although the preferred range for R is between about 0.75 and 3, the flux may increase, albeit only slightly, above this range. Hence, the desirability of operating with the flux above this range would be readily inferable from the predecessor '156 application. R values greater than about 3 are not preferred in some applications (for example, since such greater R values generally require a higher pressure gas supply and may thus be unsuited to portable applications), but the method for heating and humidifying a reactant gas supply stream for a

solid polymer fuel cell is nevertheless enabled for R values greater than about 3. In this regard, page 14 of the written description of the predecessor '156 application (now the '964 patent) indicates that the observed flux can actually decrease slightly for R values greater than 1, thereby necessarily implying that a range for R of about 0.75 to 1 is desirable in some circumstances. The written description of the predecessor '156 application (now the '964 patent) indicates that the observed flux in the embodiments for which data is reported in Figure 8 is actually shown to decrease slightly above values for R of about 1.5. Thus, Figure 8 of the predecessor '156 application (also Figure 8 of the present continuing application) fully supports a value of 1.5 for R.

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In view of the foregoing remarks, applicants request consideration and allowance of method claims 1-6 of the present continuing application.



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Respectfully submitted,

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